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EXAMINER

HENN, TIMOTHY J

ART UNIT PAPER NUMBER

2612

DATE MAILED: 08/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/733,788

Applicant(s)

PINE, JOSHUA I.

Examiner

Timothy J Henn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 5, 7, 16-18, 21 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Kingetsu et al. (US 6,181,379).

#### **[claim 1]**

In regard to claim 1, note that Kingetsu discloses a color imaging system comprising (Figure 1): a color imager having a plurality of photocells producing electrical responses that correspond to chromatic intensity values (Figure 1, Item 11), and the electrical responses from the plurality of photocells together comprising a captured color image (c. 2, ll. 39-60); and an image processor that determines whether the captured image is substantially achromatic (c. 11, 44-61), and if so, renders each of the electrical responses as an achromatic luminance value (c. 12, ll. 1-17).

#### **[claim 4]**

In regard to claim 4, note that Kingetsu discloses a color imaging system wherein the substantially achromatic image is a gray-scale image, and the achromatic format is

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a gray-scale format (c. 12, ll. 11-17).

**[claim 5]**

In regard to claim 5, note that Kingetsu discloses a color imaging system wherein the substantially achromatic image is a black-and-white image, and the achromatic format is a black-and-white format (c. 12, ll. 1-10).

**[claim 7]**

In regard to claim 7, note that Kingetsu discloses a color imaging system wherein the color image capture device and image processing circuitry are disposed within a single device (Figures 1 and 2).

**[claim 16]**

In regard to claim 16, see claim 1.

**[claim 17]**

In regard to claim 17, note that Kingetsu discloses capturing the image with a color imager having a plurality of photocells producing electrical responses corresponding to the plurality of chromatic intensity values (c. 2, ll. 39-60).

**[claim 18]**

In regard to claim 18, note that Kingetsu discloses detecting whether the image is a substantially black-and-white image, and if the image is detected to be a substantially black-and-white image, converting the plurality of chromatic luminance values to a plurality of black and white values (c. 12, ll. 1-10).

**[claim 21]**

In regard to claim 21, see claim 1.

**[claim 23]**

In regard to claim 23, see claim 1.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379) in view of Matsui et al. (US 5,448,292).

**[claim 2]**

In regard to claim 2, note that Kingetsu discloses all limitations except for a white balance function. However, white balance is well known in the digital camera art to improve the quality of pictures by making sure that real life white objects appear white when photographed, for example see Matsui (c. 1, ll. 37-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a white balance function in the camera of Kingetsu to ensure that real life white objects appear white when photographed.

**[claim 3]**

In regard to claim 3, see claim 2.

**[claim 8]**

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In regard to claim ~~2~~, note that Kingetsu discloses all limitations except for a white balance function white allows the user to select from among a plurality of white-balance settings. However, white balance is well known in the digital camera art to improve the quality of pictures by making sure that real life white objects appear white when photographed, for example see Matsui (c. 1, ll. 37-45). In particular, Matsui discloses a white balance function white allows the user to specify a kind of light source by manually operating a device or "switch" (c. 2, ll. 12-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a white balance function as taught by Matsui in the camera of Kingetsu to ensure that real life white objects appear white when photographed.

5. Claims 6, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379).

**[claim 6]**

In regard to claim 6, note that Kingetsu discloses a color imager which is a scanner (i.e. scanning type imager; c. 2, ll. 49-60). Therefore, it can be seen that Kingetsu lacks a constant, known light source. However, it is notoriously well known in the art to include constant, known light sources on cameras in the form of flashes in order to illuminate weakly lit scenes (Official Notice). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a flash in the camera of Kingetsu to be able to illuminate weakly lit scenes.

**[claim 19]**

In regard to claim 19, note that Kingetsu discloses all limitations except for steps of computing mean and standard deviation values of a color saturation distribution of the image, and comparing the mean and standard deviation values to a plurality of threshold values to detect whether the image is substantially achromatic. However, it is well known in the art to determine whether an image is substantially achromatic to comparing statistical values such as the mean and standard deviation with threshold values to quickly and easily determine if an image is color or achromatic (Official Notice). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to compare statistical values of the image data to determine if the image is achromatic in the achromatic image determination step of Kingetsu.

**[claim 20]**

In regard to claim 20, note that Kingetsu discloses all limitations except for steps of computing mean and standard deviation values of a luminance distribution of the image, and comparing the mean and standard deviation values to a plurality of threshold values to detect whether the image is a substantially black and white image. However, it is well known in the art to determine whether an image is substantially black and white to comparing statistical values such as the mean and standard deviation with threshold values to quickly and easily determine if an image is color or black and white (Official Notice). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to compare statistical values of the image data to determine if the image is achromatic in the black and white image determination step of

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Kingetsu.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379) in view of Roberts (US 5,541,654).

**[claim 9]**

In regard to claim 9, note that Kingetsu discloses all limitations except for an image-type specification control that allows a user to select from among a plurality of image formats. Roberts teaches a windowing system for an imaging array that allows a user to readout only a selected subset of the array or an "image format" and to be able to increase the frame rate of the data readout (c. 7, ll. 33-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the user to select different sections or "formats" of the array to be readout in order to increase the frame rate of the imager.

7. Claims 10, 11, 13-15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379) in view of Nakayama et al. (US 2002/0027601 A1).

**[claim 10]**

In regard to claim 10, Kingetsu discloses an image processor (Figure 2, CPU 101) that processes an image comprising a plurality of chromatic intensity values (c. 2, ll. 39-60), comprising: an achromatic image-detection circuit that detects whether the image is substantially achromatic (c. 11, ll. 46-61); and an image conversion circuit that



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renders each chromatic intensity value as an achromatic luminance value if the achromatic image detection circuit detects that the image is substantially achromatic (c. 12, ll. 1-17). Therefore it can be seen that Kingetsu lacks a white balance circuit. However, white balance is well known in the digital camera art to improve the quality of pictures by making sure that real life white objects appear white when photographed, for example see Nakayama (Paragraph 0027). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a white balance circuit in the camera of Kingetsu to ensure that real life white objects appear white when photographed.

**[claim 11]**

In regard to claim 11, note that Nakayama discloses a white balance circuit which uses data stored of a prior image to adjust white balance in order to quickly and correctly adjust white balance for an arbitrary object even just after the power supply has been turned on (Paragraph 0006).

**[claim 13]**

In regard to claim 13, note that Kingetsu discloses a color imager to capture the image (c. 2, ll. 39-60).

**[claim 14]**

In regard to claim 14, note that Kingetsu discloses an image processor wherein the achromatic image-detection circuit detects whether the image is a substantially black-and-white image, and the image conversion circuit renders the plurality of chromatic intensity values as black and white values if the achromatic image detection

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circuit detects that the image is a substantially black-and-white image (c. 12, ll. 1-9).

**[claim 15]**

In regard to claim 15, note that Kingetsu discloses an image processor wherein the image conversion circuit converts each achromatic luminance value that is less than a threshold value to black and converts each achromatic luminance value that is more than the threshold value to white (c. 12, ll. 1-9).

**[claim 22]**

In regard to claim 22, see claim 10.

8. Claims 10, 12-15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379) in view of Lu et al. (US 5,504,524).

**[claim 10]**

In regard to claim 10, Kingetsu discloses an image processor (Figure 2, CPU 101) that processes an image comprising a plurality of chromatic intensity values (c. 2, ll. 39-60), comprising: an achromatic image-detection circuit that detects whether the image is substantially achromatic (c. 11, ll. 46-61); and an image conversion circuit that renders each chromatic intensity value as an achromatic luminance value if the achromatic image detection circuit detects that the image is substantially achromatic (c. 12, ll. 1-17). Therefore it can be seen that Kingetsu lacks a white balance circuit. However, white balance is well known in the digital camera art to improve the quality of pictures by making sure that real life white objects appear white when photographed, for example see Lu (c. 1, ll. 11-29). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to include a white balance circuit in the camera of Kingetsu to ensure that real life white objects appear white when photographed.

**[claim 12]**

In regard to claim 12, note that Lu discloses a white balance circuit which analyzes a current image to computer a set of values (i.e. gains) with which to modify the chromatic intensity values of the image (Figure 2).

**[claim 13]**

In regard to claim 13, note that Kingetsu discloses a color imager to capture the image (c. 2, ll. 39-60).

**[claim 14]**

In regard to claim 14, note that Kingetsu discloses an image processor wherein the achromatic image-detection circuit detects whether the image is a substantially black-and-white image, and the image conversion circuit renders the plurality of chromatic intensity values as black and white values if the achromatic image detection circuit detects that the image is a substantially black-and-white image (c. 12, ll. 1-9).

**[claim 15]**

In regard to claim 15, note that Kingetsu discloses an image processor wherein the image conversion circuit converts each achromatic luminance value that is less than a threshold value to black and converts each achromatic luminance value that is more than the threshold value to white (c. 12, ll. 1-9).

**[claim 22]**

In regard to claim 22, see claim 10.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art further shows the current state of the art in achromatic image determination and achromatic imaging:

i.	Chen	US 4,658,287
ii.	Prater	US 5,521,640
iii.	Zandee et al.	US 5,758,044
iv.	Yeung	US 6,377,703
v.	Horie et al.	US 6,480,624

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J Henn whose telephone number is (703) 305-8327. The examiner can normally be reached on M-F 7:30 AM - 5:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH  
7/19/2004



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PRIMARY EXAMINER